Fine Binding

55962

ONTARIO MINISTRY OF
LIBRARY
NATURAL RESOURCES

Digitized by the Internet Archive
in 2013

http://archive.org/details/resourcemansep1968onta

ONTARIO MINISTRY OF
LIBRARY
NATURAL RESOURCES

No. 96

September 1968

RESOURCE MANAGEMENT REPORT

ONTARIO

DEPARTMENT OF LANDS AND FORESTS

HON. RENE BRUNELLE
Minister

G.H.U. BAYLY
Deputy Minister

No. 96

September 1968

RESOURCE MANAGEMENT REPORT

FISH AND WILDLIFE BRANCH

ONTARIO

DEPARTMENT OF LANDS AND FORESTS

HON. RENE BRUNELLE
Minister

G.H.U. BAYLY
Deputy Minister

RESOURCE MANAGEMENT REPORT

T A B L E O F C O N T E N T S

No. 96 September, 1968

		Page
Kenora District Bait Fish Report 1967.	- A.R. Olsen	1
Revised Trap-line Management Policy Sault Ste. Marie District 1968.	- E.F. Mantle	11
Sudbury District Brook Trout Planting by Helicopter.	- D.R. Hughson	20
Waterfowl Production and Harvest Report Swastika District - 1967.	- J.F. Gardner	23
Live-trapping Pheasants 1968 Lake Simcoe District.	- K.C. Faulkner	34

KENORA DISTRICT BAIT FISH REPORT

1967

by
A.R. Olsen

Abstract

Licences were issued to 61 fishermen to harvest bait fish in 1967. These were comprised of 36 fishermen who operated on a commercial basis and 25 tourist camp operators who caught bait for the use of their guests only.

Returns were received from 100 percent of the fishermen showing a total catch of 351,092 dozen minnows. Total sales were 345,904 dozen with a reported value of $186,960.00 or an average price of $0.54 per dozen.

These data indicate an increase in catch of 14,085 dozen, an increase in sales of 7,933 dozen and an increase in value of sales of $2,806.00.

Sales of all fishermen combined ranged from a low of $20.00 to a high of $16,460.00.

Average gross sales of the 36 fishermen who operate on a commercial basis was $4,755.00, an increase of $177.00 over the 1966 average.

Average gross sales of 25 tourist outfitters who caught bait for their own guests was $629.00, an increase of $237.00 over the 1966 average.

Revenue from sales of bait fish licences in 1967 was $5,841.00, an increase of $483.00 over 1966.

Introduction

In 1967, 100 percent of the bait fishermen reported their catch and sales. Although some reminders were required, the Annual Commercial Bait Fish Return (Appendix 1) was completed and returned by all bait fishermen.

Bait fishermen were licenced by the block system as in the past. Each block encompassed an area of approximately 100 square miles and corresponds with the area shown on one base map. There is a total of 146 such blocks in the entire district, 14 of which were unlicenced during 1967 because of their remoteness or lack of bait fish.

Licences were issued to 36 operators to harvest bait on a commercial or wholesale basis from 132 blocks.

Areas licenced to individual fishermen varied greatly. One licence covers 19 blocks with a fee of $400.00 (based on $40.00 for the first block and $20.00 for each additional block). In addition, a $10.00 dealer's licence is required. Other licences cover as little as one-half block.

Licences were also issued to 25 tourist outfitters permitting them to harvest bait from specific waters in the vicinity of their camps for sale to their guests only. These licences are issued solely to ensure that all camps may have bait available for their guests regardless of their geographic location or source of supply from commercial operators.

Most tourist outfitters would rather buy and resell bait than catch their own except when wholesale prices are excessive.

The total number of licences issued for harvesting bait fish in 1967 was 61, a reduction of three from the previous year. This reduction consisted of two commercial licences and one tourist outfitter's licence.

Data Received from Bait Fish Returns

Although returns were received from 100 percent of the fishermen, the accuracy of the data is doubted and it is felt that in many instances complete sales are not reported.

Sales to anglers and to dealers are reported separately by fishermen and for this reason dealers are not required to report.

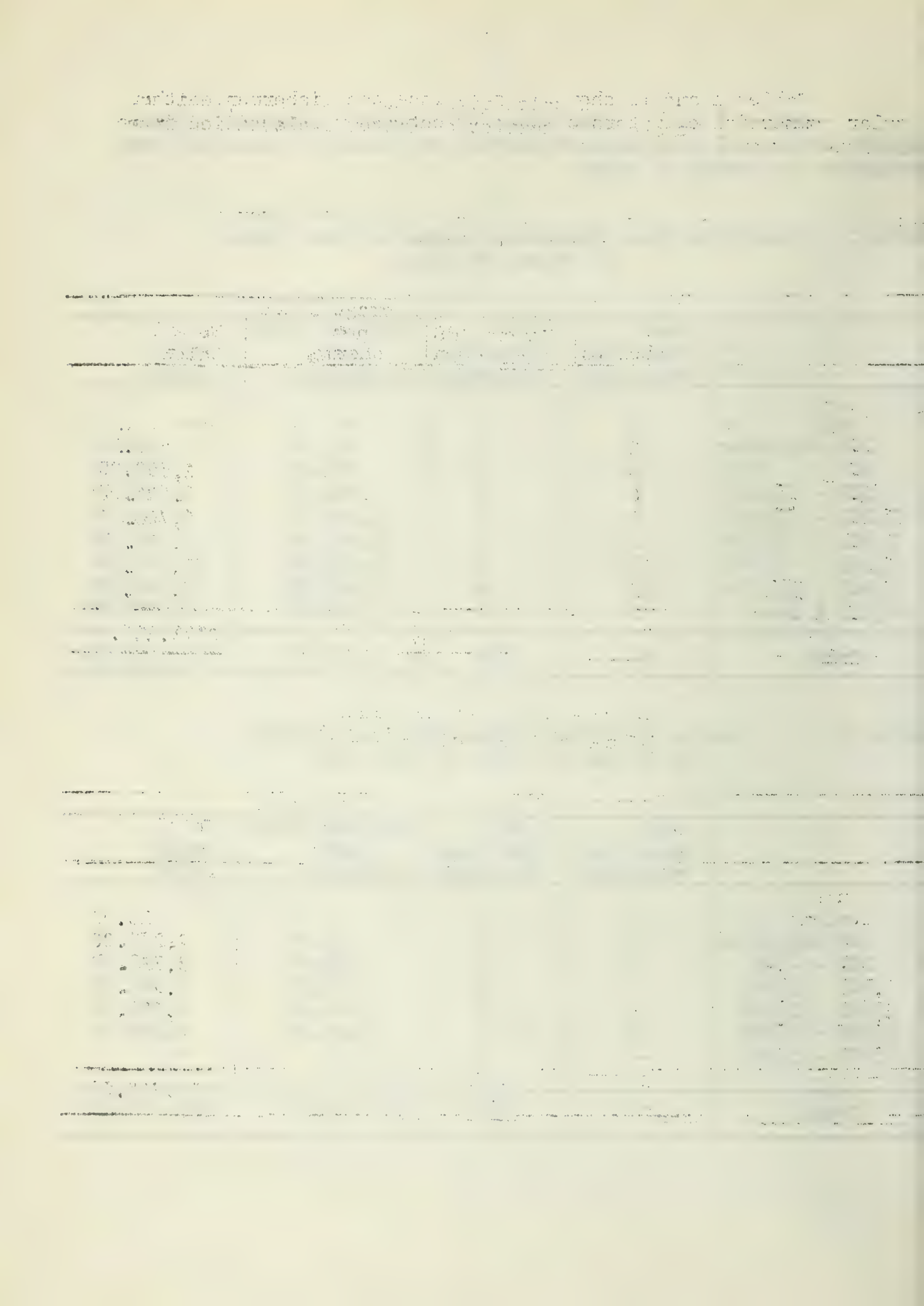
Tables 1 and 11 show sales by licenced fishermen, either regular commercial operators or tourist outfitters, classified into categories by amount of sales.

Table 1 Commercial Bait Fishermen Classified into Groups by Volume of Sales

	# of Reporting Fishermen	% of Reporting Fishermen	Average Sales per Fisherman	Total Sales
nil	2	6	--	$--
$ 100 and Under	1	3	$ 93.00	93.00
101 - 500	2	5	300.00	600.00
501 - 1,000	4	11	562.00	2,550.00
1,001 - 2,000	6	17	1,437.00	8,626.00
2,001 - 3,000	3	8	2,248.00	6,744.00
3,001 - 5,000	3	8	4,443.00	13,329.00
5,001 - 10,000	10	28	7,145.00	71,450.00
10,001 & over	5	14	13,564.00	67,823.00
Total	36	100	$ 4,755.00	$171,215.00

Table 11 Tourist Outfitters Classified into Groups by Volume of Sales of Bait Fish

	# of Reporting Fishermen	% of Reporting Fishermen	Average Sales per Fisherman	Total Sales
nil	3	12	$ --	$ --
100 and Under	1	4	20.00	20.00
101 - 500	11	44	206.00	2,273.00
501 - 1,000	5	20	759.00	3,796.00
1,001 - 2,000	3	12	1,665.00	4,997.00
2,001 - 3,000	2	8	2,330.00	4,659.00
3,001 - 5,000	--	--	--	--
Total	25	100	$ 629.00	$15,745.00



Value of Equipment

These data are not solicited nor is space provided for it on the form presently used (Appendix 1). When a standard report form is designed it should include space for these data.

The gear and equipment used is often specialized and expensive. It ranges from traps which are custom made and nylon seines valued at $150.00 each, to special tanks with aeration equipment. Aircraft, vehicles and boats are also used.

In the past, most equipment, other than traps, seines and specialized equipment, had multiple uses; therefore, to charge their costs against the bait fish industry was somewhat biased. Now operators acquire and use this equipment solely in their bait fish industry and an evaluation would be more meaningful.

Methods of Harvesting Bait Fish

Methods of harvesting bait fish have not changed in this district and are standard throughout.

Standard traps of approximately 12" x 24" or slightly larger in diameter, are most effective for suckers, chubs and dace. Seines of 60 or 100 feet in length and of varying depths are used to take shiners from lakes; while dip nets are used for taking them in rapids, sluice-ways of power dams and below waterfalls.

Some experimenting is being done by fishermen with traps of different shapes such as a "cloverleaf" type and with miniature hoop nets. Results of these experiments have not proven sufficiently satisfactory to warrant widespread use of this gear.

The Kenora District Bait Fishermen's Association remains quite active. Co-operation between fishermen is good and exchange of ideas and methods of fishing has brought about better harvesting methods as well as elimination of excessive losses.

Very limited amounts of bait fish are required during the winter. These are used mainly for crappie and some walleye fishing. The demand is readily supplied by three or four bait fishermen who operate during this period.

Types of Licences Held and Amount of Gear Licenced

Licencing of commercial bait fishermen continued on the basis of area held. The fee was manipulated by the amount of gear shown on the licence; eg. the first full block held would require a licence

fee of $40.00, thus the licence would show 20 traps @ $2.00 each. If the use of a seine was requested, two licences would be issued - a seine licence for $10.00 and a trap licence for $30.00 authorizing the use of 15 traps. Each additional block or portion thereof requires the licencing of $20.00 worth of gear.

The number of areas held varies according to the operation, accessibility, transportation and equipment used. One operator using an aircraft holds 19 blocks, which required licences valued at $400.00 plus a dealer's licence.

Licences Issued by Types

Type "G"	Seines	51 @ $10.00	$ 510.00
	Traps	1,968 @ 2.00	3,936.00
	Dips	--	
Type "E"	Dealers	135 @ 10.00	1,350.00
Type "F"	Preserving	9 @ 5.00	45.00
	Total		$5,841.00

Catch

Total catch of bait fish in 1967 was 351,092 dozens of species as shown below.

Chubs	274,836 doz.	78.2%
Shiners	50,565 doz.	14.5%
Suckers	10,288 doz.	3.0%
Others	15,403 doz.	4.3%
Total	351,092 doz.	100.0%

Kind of Bait Fish Caught

The reported catch of bait fish is generally comprised of chubs, shiners, suckers and "others" which includes species such as dace and fat heads of several sub-species which are not readily identified by bait fishermen.

Chubs are most popular because of their desirable size range of 3" to 5" and their tolerance to handling and holding. Some difficulty is experienced in July and August in obtaining sufficient supplies of this species.

Shiners are probably the best bait for all species of fish but handling and holding is difficult. Sales are restricted to areas where market and supply are close and hauling for long distances is not required. Of the many species taken, the northern spottail is most tolerant. Shiners are very abundant and some interest is shown lately in preserving.

Suckers are an excellent bait fish and are available in sizes ranging from 3" to adults of 18". These larger fish are cut into chunks for lake trout fishing. Harvest of this species is limited and the best catch is made during spawning runs in the spring.

Fatheads are normally small and although very plentiful, their use is restricted as crappie bait.

Dace are harvested as two separate sub-species, finescale and northern redbelly. The northern redbelly dace are taken in sizes up to 9 to 10 inches in length and demand a market price of up to $1.50 per dozen. Finescale dace are considerably smaller and less tolerant to handling and holding.

Loss

Loss was a serious problem some years ago, however, it has been overcome with experience of the fisherman. Losses are now primarily restricted to power failures and floods both of which are relatively rare and overall losses are usually negligible.

The turnover of bait fish is such that disease has not, as yet, become a problem. Holding of bait fish for long periods would probably cause such problems and a constant watch is maintained on all holding ponds.

All operators are aware of some simple treatments to prevent fungus and all use recommended cleaning methods for tanks.

Table III Catch, Sales and Value by Species

Species	Catch Dozens	Sales Dozens	% of Total Sales	Total Value	Average Price per Dozen
Chubs	274,836	273,411	79.1	$147,687.00	$0.5401
Shiners	50,565	49,160	14.2	25,212.00	0.5128
Suckers	10,288	8,064	2.3	7,552.00	0.9365
Others	15,403	15,269	4.4	6,509.00	0.4262
Total	351,092	345,904	100.0	$186,960.00	$0.5404

Value of Bait Fish Sold by Fishermen

Total value of bait fish sold in 1967 was $186,960.00, an increase of $2,806.00 over 1966.

Table IV shows comparative figures over the period 1961 to 1967.

Table IV Comparative Figures 1961 to 1967

	Chubs		Shiners		Suckers		Others		
Year	Dozens	% Total	Dozens	% Total	Dozens	% Total	Dozens	% Total	Total Value
1961	99,719	69.3	34,506	24.0	4,600	3.2	5,066	3.5	$104,652
1962	183,161	76.2	40,482	16.8	12,122	5.1	4,570	1.9	118,040
1963	209,755	74.4	45,241	16.0	14,236	5.0	12,864	4.6	143,311
1964	226,471	78.9	43,292	15.1	13,398	4.6	3,938	1.4	142,210
1965	238,455	77.1	50,097	16.2	10,637	3.4	10,286	3.3	159,626
1966	259,089	77.0	53,710	15.4	8,935	3.0	15,273	4.6	184,154
1967	273,411	79.1	49,160	14.2	8,064	2.3	15,269	4.4	186,960

The average price per dozen of minnows sold in 1967 was $0.540, a very slight decrease from the average price of $0.545 in 1966.

The average sale price of all bait fish sold wholesale to dealers was $0.50 per dozen. The average price of bait fish sold directly to anglers was $0.59 per dozen. This suggests a mark-up of $0.09 per dozen or an additional revenue from bait fish of $14,341.00 from retail sales by dealers. Most tourist camps sell bait fish at cost as a service to their guests. Sporting goods stores and other bait dealers, however, require a profit and it is primarily these few dealers that are responsible for this above noted increase.

Table V Prices Paid for Bait Fish Sold Directly from Fishermen to Anglers and Sold Wholesale to Dealers

Species	Sold to Anglers		Sold to Dealers	
	Dozens	Price	Dozens	Price
Chubs	141,357	$0.57	132,054	$0.51
Shiners	33,382	0.55	15,778	0.43
Suckers	7,155	0.92	909	1.05
Others	4,659	0.61	10,610	0.34

Transporting, Handling and Holding Facilities

Through experimentation and exchange of information among bait fishermen, transporting, holding and handling methods and facilities have improved to almost entirely eliminate losses.

Natural and artificial ponds are utilized to hold and stockpile minnows in the spring for sale in July and August when bait is difficult to catch.

Electrical aeration equipment and oxygen are widely used now and tanks have been perfected for use on vehicles and aircraft.

Propagation

Three operators are now hatching suckers for replenishing supplies in private ponds. Results are encouraging and it is felt that the propagation of suckers and other bait species will be a necessity in the future.

Only limited advice can be provided to these people at the district level.

Feeding

In some cases, small size bait fish are caught and stocked in ponds. Commercial feed is utilized and excellent growth rates result. Feeding, however, is done only on a very limited scale.

Conclusions and Summary

Many problems remain unsolved in the bait fish industry. Although licencing by blocks has been accepted and approved by almost all fishermen, there is the occasional complaint by an unsatisfied operator. Such complaints can always be expected when such a group is competing with one another for areas from which to harvest bait and not for a market. The market is presently unlimited.

Expansion of the industry can no longer be expected except by means of propagating bait fish. It appears from data received from fishermen that the desirable bait fish are being harvested to almost the limit. Shiners and some other less desirable species could contribute more if they could be sold in a preserved or salted state. Such a market would be difficult to establish when the more desirable species are available.

Recommendations

(1) It is recommended that a standard method of licencing be established for at least the districts of the Northwestern Region.

(2) It is recommended that more research be done with regard to the natural resource and also with regard to private bait fish hatcheries.

(3) It is recommended that research continue with regard to the spread of diseases and preventative methods.

(4) It is recommended that professional technical assistance be provided for those showing sincere interest in establishing hatcheries or other facilities for propagation.

APPENDIX 1

ANNUAL COMMERCIAL BAITFISH RETURN

For Year Ending December 31, 19___

No. of Traps Licenced _____

No. of Seines Licenced _____

No. of Dip Nets Licenced _____

Do you hold a licence to Preserve Baitfish? Yes _____ No _____

Do you hold a Baitfish Dealer's Licence? Yes _____ No _____

Do you operate during Summer _____ Winter _____ Both _____

Record of Catch (To be completed by Dealers & Baitfishermen Only)

Chubs _____ Doz. Suckers _____ Doz.

Shiners _____ Doz. Others _____ Doz.

Record of Sales (To be completed by Dealers & Baitfishermen)

	Sold to Anglers		Sold to Dealers	
Species	Dozens	Value	Dozens	Value
Chubs				
Shiners				
Suckers				
Others				
Totals				

No. of Lakes Fished _____

Name or located body of water from which majority of baitfish was taken _____ Estimate % _____

Do you use small lakes or holding ponds to retain minnows? Yes _____

No. of dozen Pickled or Salted _____ No _____

The above return is correct to the best of my knowledge and belief.

Signature _____

Remarks _____

REVISED TRAP-LINE MANAGEMENT POLICY

SAULT STE. MARIE DISTRICT, 1968

by
E.F. Mantle

Abstract

This brief paper consists of two parts: Part 1 critically examines the present trapping situation in the Sault Ste. Marie District, noting that the harvest is very low and that less than 50% of the registered trappers in the Sault Ste. Marie District are taking nearly 90% of the fur.

Part 11 outlines a program for an upgraded trapline management policy and proposes several new approaches to some old problems.

Part 1 - Analysis of Present Trap-line Situation

Introduction

During the 1966-67 trapping season, 3,048 beaver were harvested by 182 trappers on 211 registered trap-line areas. At an average price of $13.05 per pelt, this represents a total of $39,776.40 or an average return per trapper of $218.55.

The estimated potential beaver harvest for the same period was approximately 8,000 beaver - more than 2-1/2 times the actual harvest.

This report attempts to analyze the trapping activity of the District in order to arrive at sound conclusions upon which to build an aggressive fur management program.

Methods

The basis for the figures used herein are the 1967 annual fur returns and the ten-year summaries (Form T25). Resident trappers and farmer trappers are not dealt with directly, nor are any recommendations made pertaining to these trappers as their activities are confined to patented lands.

For purposes of direct comparison, the 1966-67 beaver harvest figures are used. When compared with figures from preceding years, these figures are found in most cases to be indicative of the individual efforts of the trappers concerned. Such figures do not necessarily give any indication of the productivity potential of the respective trap-lines; however, it is frequently found that there have been sharp fluctuations in the levels of harvest on individual trap-lines (either increase or decrease) when the areas have changed hands, due to the degree of effort exerted by the incumbent trapper.

With the foregoing in mind, the trappers were arbitrarily divided into three groups; inactive trappers (harvest 0-10 beaver); moderately active trappers (harvest 11-25 beaver); active and productive trappers (harvest 25+ beaver per year).

Maps were then prepared showing the geographic distribution through the District of the above-mentioned categories of trappers (see Map 1). Comparisons were made of the various levels of harvest taken from several sets of adjacent trap-line areas to determine whether or not certain areas were consistently productive or unproductive.

Results

The numbers of trappers in each of the aforementioned categories and their respective percentages of the total beaver harvest from registered trap-line areas are as follows:

	No. of Trappers	% of Total Dist. Trappers	Beaver Harvest	% of Total
Active	40	22%	2,090	68.6%
Mod. Active	38	21%	624	20.5%
Inactive	104	57%	334	10.9%

No consistent pattern is to be found in the distribution of productive and unproductive trap-line areas, although much of Lake Superior Provincial Park and the adjacent townships to the east of the Algoma Central Railway have remained unproductive through lack of trapping activity. Surveys have indicated that this area has a reasonably good potential and during the current (1968) trapping season, two Indian families from the Moose Factory area have trapped well over 200 beaver as of the end of February in spite of considerable time lost due to illness.

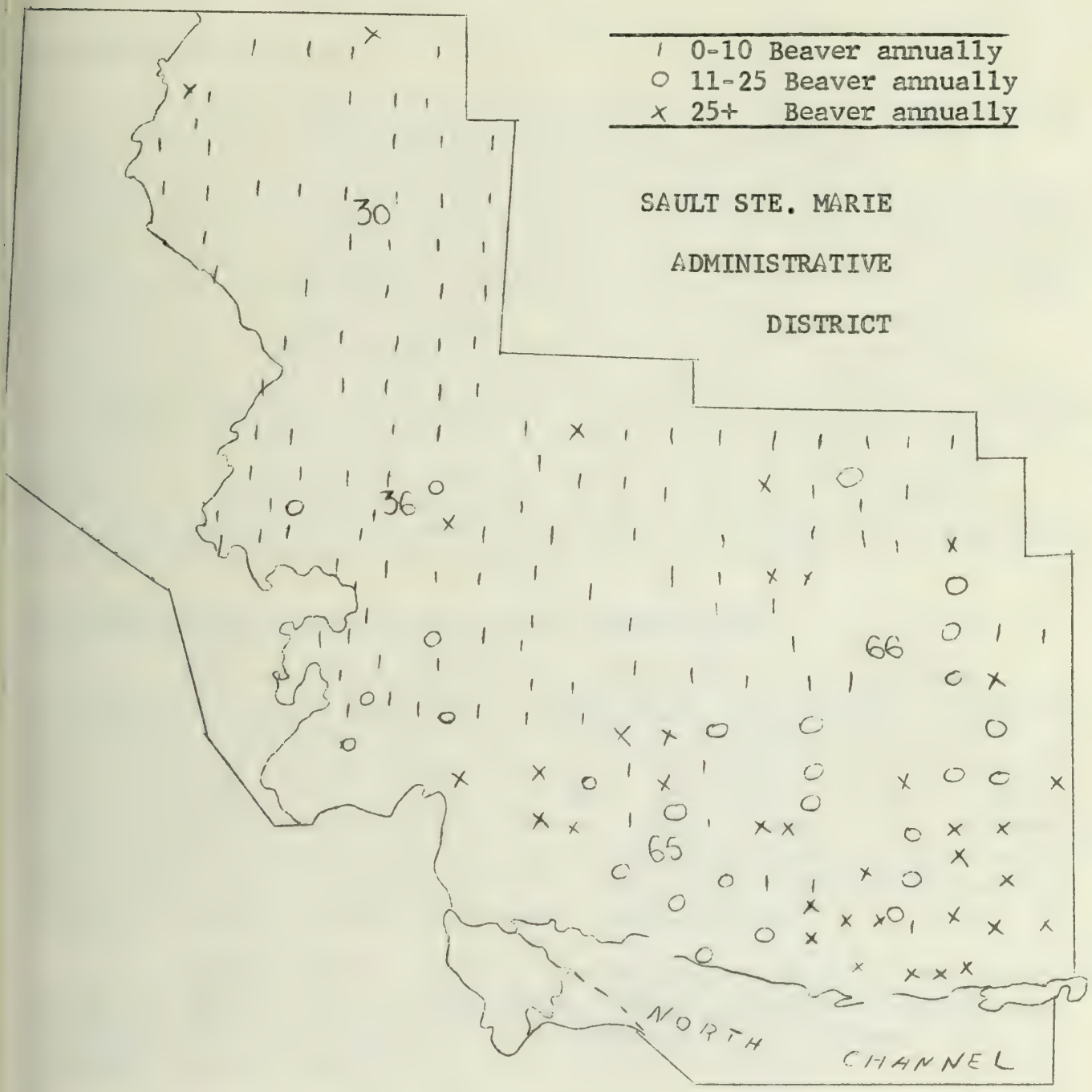
Estimated potential harvest from this area (11 registered trap-lines - area approximately 396 square miles) is approximately 600 beaver. (See Map 11).

Coverage of this area by the Indian trappers suggests that this estimate may be conservative.

Conclusions

Examination of the available information and District trap-line maps leads to several obvious conclusions: (1) Ninety percent of the District fur harvest is being taken by less than 50% of the District trappers. (2) Many of the registered trapline areas are too small to be productive of a profitable fur harvest. (3) A large number of the unproductive trappers in the District are almost totally inactive; in short, they are either unable or unwilling to trap. (4) If 57% of the registered trappers are harvesting only 10.9% of the beaver, it is most probably that the other more active trappers could harvest this 10.9% as well and very likely considerably more.

Map 1 - Distribution of Activity on Registered Trap-lines



ONTARIO DEPARTMENT OF LANDS AND FORESTS 17 JUNE 1965

Part II - Revised Fur Management Program

Discussion

Amalgamation of Areas

During the past number of years, a policy of amalgamating small trap-line areas whenever and wherever possible in order to produce larger, more productive areas has been in effect. It is obvious that this policy must now be accelerated and definite steps must be taken to discourage and remove inactive trappers and encourage active trappers. It is not suggested here that elderly men who have perhaps been outstandingly productive in past years are to be thrust aside because of age or illness. There are, however, numerous instances of "hobby trappers" whose real interest in trapping is questionable. These people contribute little or nothing to the fur management program and while it is probably not possible to eliminate the "hobby trappers" completely, their numbers should be kept to a minimum and every effort made to restrict the location of such trappers to small trap-line areas close to settled communities, i.e. they should not be permitted to hold prime trap-line areas of considerable size and allow them to lie unharvested.

Re-numbering and Identification of Private Lands

The present practice of amalgamating trap-lines has resulted in a large quantity of unused trap-line numbers. Thus, the numbering of the trap-line areas is no longer consecutive and a re-mapping and re-numbering of the District trap-lines will shortly be a necessity. Many of the registered trap-lines presently under licence contain considerable areas of patented land. As a registered trap-line licence is authority to trap on Crown lands only, parcels of private land, including railroad and patented mining properties, should be clearly marked on future trap-line maps.

Certain areas, notably the southern portion of the District along the North Shore of Lake Huron, should probably be completely withdrawn from the registered trap-line system and trapped on a resident licence basis.

Unharvested Areas and Nuisance Beaver

Frequently unharvested areas provide the Department with a double problem, that of unharvested fur and a high "nuisance beaver" population which cause considerable consternation by flooding roads, railroads, hydro lines, etc., etc. Efforts to engage the services of the licenced trapper on these areas are often unsatisfactory or futile. Since pelts are almost valueless during the summer months, it may be necessary to assure some remuneration to trappers engaged in nuisance beaver removal.

The railways employ persons to remove nuisance beaver which they feel pose a threat to railroad equipment and a potential safety hazard. Annual flights are made with representatives of railroads, Department of Highways and Hydro to locate potential trouble spots. It is noteworthy that many of these nuisance beaver colonies are located in areas which our fur returns indicate as areas of poor harvest.

This situation should not be permitted to continue and it is suggested that active trappers be authorized to harvest fur from such areas when efforts to induce the licenced trapper have failed. Consistent inactivity without cause should result in loss of trapping privileges.

Trapper Education

Conversations with a number of local trappers suggest that many of them are not aware of the most progressive trapping techniques, and could benefit financially from an improved standard of fur handling. It is possible that the Field Officer can lead the way here by tactfully pointing out flaws in pelt preparation and suggesting ways of improving the finished product.

For these reasons, it is desirable that the Conservation Officer himself be well informed regarding productive trapping techniques and fur handling. Therefore, it is suggested that some time might well be spent by the Officers in occasionally making field trips with some of the better trappers in their areas and observing the techniques utilized by these men.

Recommended District Fur Management Policy

(1) The District trap-line maps be re-numbered, eliminating unused numbers and amalgamating vacant trap-lines, where practical, with other areas. This re-mapping should be repeated at least every five years; more often if necessary. Re-mapping and numbering to be completed before commencement of 1968-69 season.

(2) All trap-line area maps clearly define private lands so that the licencee is completely aware of the status of his trap-line area.

(3) Trappers in the "active" category be approached by local Conservation Officers to determine their capacity for an increased level of activity and that every effort be made to accommodate those who are willing to work by enlarging their areas or granting them additional trap-line areas, etc., wherever possible.

(4) Inactive trappers be contacted and a minimum annual harvest be set which must be taken by a certain date. Failure to do so would result in another trapper being authorized to harvest fur from the area with special emphasis in activity being placed on "nuisance" locations. (Adjacent to railways, highways, etc.)

Consistent failure to harvest an area will be reason to refuse renewal of a licence on an area. The foregoing will, of course, take into consideration illness or other reasonable excuse. Minimum harvest should consist of 75% of the quota established on the area. This quota should be established by the Conservation Officer, having regard to the population and potential productivity of the individual trap-line area.

(5) All trappers be contacted by mail and informed of the true status of a trap-line area with regard to transfers, sales, etc., as follows:

(a) A trap-line licence is authority to hunt or trap fur bearing animals on the Crown lands in the area described on the licence.

(b) Such a licence conveys no interest or right in the land itself.

(c) In any sale or transfer only the traps, cabins, canoes or other equipment can be considered as part of any transaction but not the trap-line area itself.

(6) In the event of any sale or transfer, both the transferer and transferee be made aware of the above conditions in order to discourage any attempt at trafficking in trap-line areas or other schemes aimed at profiting at the expense of the District Fur Management Program. We must act as referees in such transactions to prevent recurrences of some of the "shady" deals which have occurred in the past.

(7) All trappers be required to make known to the Department the location of any cabins on their trap-line area.

It is proposed that each trapper be permitted one trapping cabin at no cost on his trap-line area and that he be provided with a sign designating it as an authorized trap-line cabin by the Department, to be used for trapping purposes only and not as an outpost cabin, tourist camp, or rental cottage. Such usage would result in a Land-Use permit fee being charged, plus the appropriate Provincial Land Tax.

Location of camps will be subject to approval by the Lands Branch and additional cabins will require a Land Use Permit.

An exception to the above may be granted on unusually large trap-lines in isolated areas.

(8) Conservation Officers become more intimately involved in the District Trap-line Program by:

(a) Periodic trap-line inspections in their management zones;

(b) Occasional travel with a productive trapper on his area to observe methods and techniques;

(c) An aggressive approach to the trapper to persuade him to be more productive and to produce a better handled pelt for the market.

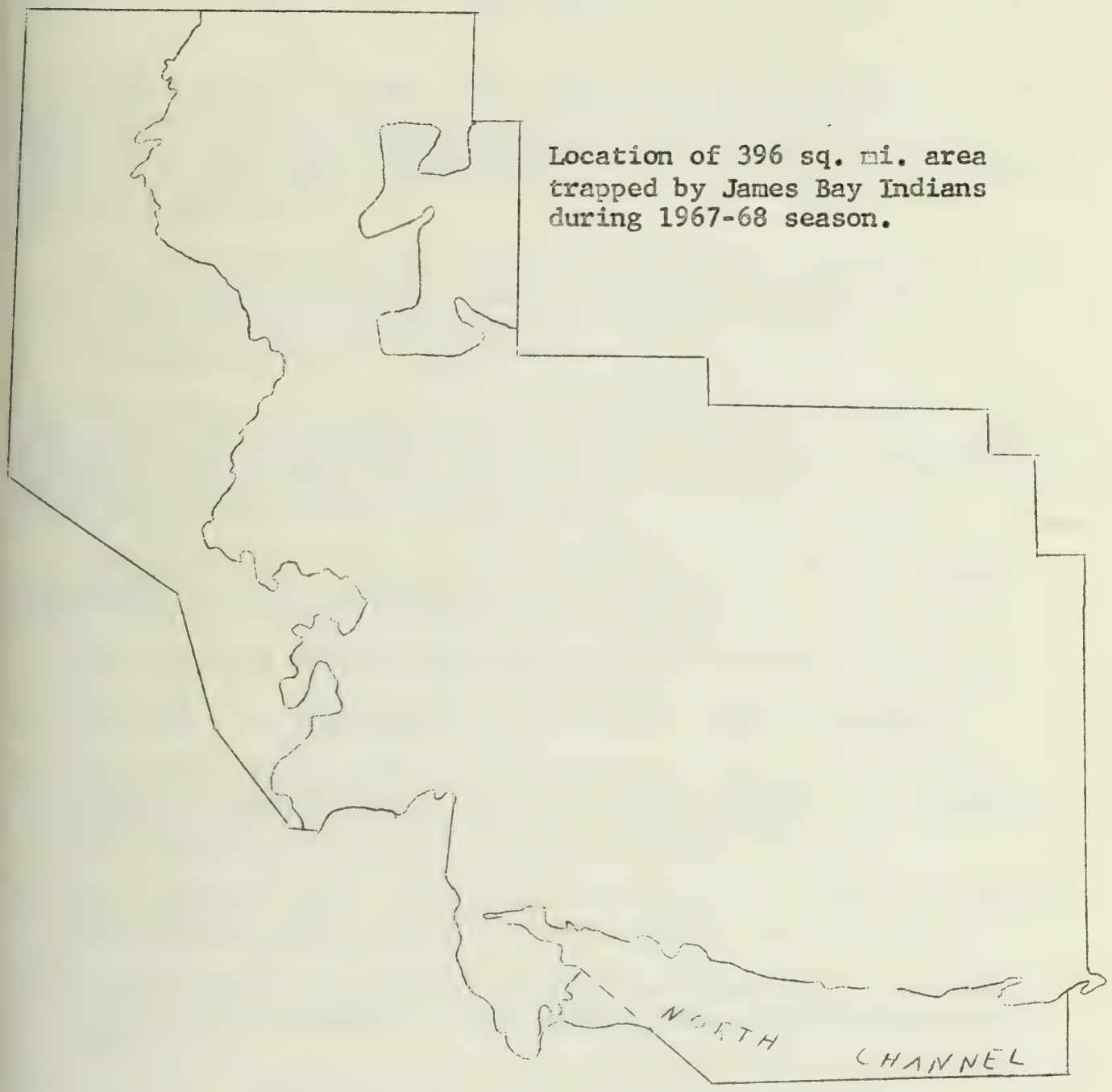
(9) Consideration be given to holding an annual "Fur Handling Clinic" at which an expert trapper could demonstrate to less skilled trappers and farmer-trappers correct trapping and fur handling techniques. Such a clinic could be held in conjunction with Annual Trappers Meetings and while it is conceded that some expense may be involved, (i.e. travelling expenses and wages paid to the expert trapper) the benefits should outweigh any cost entailed. The most recent harvesting techniques are both more productive and more humane than older methods.

(10) Lastly, the local Officer endeavour to impress upon trappers and prospective trappers the importance of operating a trap-line in a methodical and businesslike manner. Furs should be accumulated into lots for sale, not sold singly and haphazardly.

Only when we have trappers who are capable of operating their trap-lines as a proper commercial undertaking can any proposed fur management program become a reality.

Map 11

SAULT STE. MARIE ADMINISTRATIVE DISTRICT



ONTARIO DEPARTMENT OF LANDS & FORESTS 17 JUNE 1965

SUDBURY DISTRICT BROOK TROUT

PLANTING BY HELICOPTER

by
D.R. Hughson

Over a number of years difficulties and complications have been encountered in the final stage of distribution of brook trout in some of our important "pack-in" lakes. These lakes are small in size (10 to 40 acres) which precludes the use of fixed-wing aircraft in landed plantings:

> "Air dropping of trout while proving successful to some degree has not produced the return to the angler or to test netting that shore plantings have as indicated by experiments in this field".*

The lakes are from one-half to one mile from a road or accessible lake. No known natural reproduction was occurring. Winter and/or summer angling pressure was known to be heavy from information gathered by Conservation Officers during patrol.

The planting of these small lakes was dependent on obtaining sufficient help to carry the fish to the lakes.

The problems or complications were as follows:

1. The number of volunteers to show up was always in doubt.

2. Frequently truck driver and Conservation Officers worked far beyond a normal working day to get the fish into the scheduled lakes when too few or no volunteers showed up.

3. On a few occasions, interested individuals or tourist outfitters paid men to carry the trout to the lakes.

4. Distribution was dependent on bush road conditions which were frequently impassible at that time of year, thus delaying the programme.

5. Where the trout had to be taken down a lake and then portaged into the designated waters, the fish were sometimes in stress conditions at time of planting in spite of using plastic bags, chilled water and oxygen. The trip from the truck to the lake sometimes took up to, or over, an hour.

*Differential Recovery of Brook Trout Planted by Hand and by Air Drop by J.M. Fraser.

With the even greater demands being placed on our fisheries resources, it becomes increasingly important that we obtain maximum survival from planting. From the standpoint of actual fish handling, the transfer of trout from the hatchery truck to the "pack-in" lake has been the weak link in the chain. It is this stage which needs improvement. The helicopter was the obvious answer.

Method

Trips were planned a week in advance so that other divisions would have the opportunity to use the helicopter while it was in the area of planting.

Due to spring fire hazard, all plantings were made before noon. This necessitated the truck leaving the hatchery at 7:00 a.m. to arrive at distribution point at 10:00 a.m.

The helicopter used was the "G4". The fish were carried in double plastic bags 24" x 36". Approximately 2 gallons of water with 500 yearling brook trout were put into each bag. The air was removed from the bag and then it was filled with oxygen. To close the bag, yet facilitate its reopening, a soft type of rope, approximately 1/4" in diameter, was tied in a bow.

Lands and Forests cardboard boxes 14" x 16" x 24" were placed on the carrying racks on the helicopter and two plastic bags of fish were stood upright in each of these. This meant that we could easily carry 4,000 fish per load. On short trips, by putting more fish to the bag, we were able to carry up to 6,000.

The load was tied onto the racks and the empty boxes and bags had to be secured on the return trip.

There are two points that bear mentinn:

(1) From the aspect of economics, it is important to bring the fish by truck to a location central to the lakes being stocked or to be able to move the truck along the route from one landing location to another to cut down dead heading time by the helicopter.

(2) It is necessary to have a clearing on the shore of the lake being planted where the pilot can let off a passenger, then manoeuvre the left or pilot side next to the shore so that the passenger can release the fish on that side. Alternatively the pilot may land in the clearing and plant the fish from the shore.

Cost Comparison

The cost of the Turbo Beaver is $50.00 per hour compared with $108.00 per hour for the "G4" helicopter.

The total cost of planting 41,000 yearling in our 15 pack-in lakes was $1,112.00 for 10 hours 20 minutes using the "G4" helicopter. The cost of the same planting using the Turbo Beaver and dropping the fish would be approximately $400.00 to $500.00.

While an increased cost of $700.00 for planting 41,000 yearling trout is quite high (1.7 cents per fish), we feel the probable increased survival and return to the angler justifies the expenditure. Fraser indicates the difference in recovery is 21% in favour of shoreline hand planted yearlings. The extension of this to actual dollar value for 20% of 41,000 trout at 20 cents per fish is $1,600.00.

It should be borne in mind that approximately 50% of the helicopter is spent in travelling to the planting areas. When the helicopter can be used by other divisions in the same locality, it means much more efficient use of our helicopter time.

Recommendations

If this method is to be continued, it is recommended that light plywood boxes be built for the carrying racks on the helicopter since it would speed up the loading and unloading. This would also remove the hazard of carrying the empty boxes on the return journey.

If the Jet Ranger was used for this project, it would necessitate the development of a new carrying method and possibly a different method of release if it was not equipped with floats. This could be solved by clearing a landing site on each lake prior to planting.

WATERFOWL PRODUCTION AND HARVEST REPORT

SWASTIKA DISTRICT - 1967

by
J.F. Gardner

Abstract

During the summer of 1967 a total of 131 broods of waterfowl were recorded from brood counts on the Ghost River and Moose Lake together with general observations from scattered areas throughout the District. Mean brood sizes of practically all species were up from last year with Blacks in particular averaging 6.8 young compared with 4.7 in the previous year. Opening day bag checks on the Ghost River, Long Lake, Little Clay Belt, Kirkland slimes, Hill Lake and Mountain Lake yielded success rates of 2.2, 2.6, 2.2, 0.5, 3.8 and 2.6 birds per man respectively.

Species composition showed Blacks and Mallards making up over 50% of the total kill with Blacks predominating in all areas except the Ghost River.

Introduction

During the summer months of 1967, field officers were requested to record data on observations of waterfowl broods during the course of their regular duties. This information has been combined with data from actual brood counts conducted in order to determine hatching success and breeding incidence for several of the more important nesting species of ducks in the Swastika District. Considering complete and incomplete broods together with "feigning" hens, a total of 131 broods of waterfowl were recorded comprising the following nesting species: Common Goldeneye (Glaucionetta clangula) (49), Black (Anus rubripes) (37), Blue-winged Teal (Querquedula discors) (14), Hooded Merganser (Lophodytes cucullotus) (9), Ring-necked duck (Nyroca collaris) (6), Mallard (Anus platyrhynchos) (5), American Widgeon (Mareca americana) (5) and Common Merganser (Mergus merganser americanus) (6).

Table 1 presents a district summary of brood observation totals and mean brood sizes for the 1967 breeding season.

In examining Table 1 in comparison with equivalent data from the 1966 report, the most significant observation is the general increase in mean brood size in all species except Mallard and Ring-necked. Blacks especially, seem to have enjoyed a rather successful breeding season as indicated by the higher brood incidence (37) compared with (28) last year despite the fact that fewer formal brood counts were conducted during 1967. Mean brood size of complete broods jumped from 4.7 last year to 6.8 in 1967. Although hatching was generally later this year due no doubt, to adverse pre-incubation weather conditions, warmer June temperatures and generally higher water levels coupled with a high beaver pond incidence have resulted in a good breeding year for Swastika District Blacks.

TABLE I

DISTRICT SUMMARY

W/F BROODS - 1967

Specie	No. Com. Brds	No. Young	Mean	No. Inc. Brds.	No. Young	Feigning Hens
Com. Goldeneye	47	235	5.0	2	8	
Black	23	157	6.8	14	30	
Am. Widgeon	3	18	6.0	1	2	1
Ring-necked	6	37	6.1	-	-	
Blue-winged Teal	12	74	6.1	1	2	1
Com. Merganser	6	38	6.3	-	-	
Mallard	5	27	5.4			
Hooded Merganser	6	34	5.6	3	5	
Wood-duck	-	-	-	-	-	
Green-winged Teal	-	-	-	-	-	
Totals	108	620		21	47	2

Section A

BROOD COUNT DATA - BY AREA

I Ghost River

Date	Township	Specie	Com. Broods	# Yg.	Incom. Broods	# Yg.
July 12	Lamplugh	C. Goldeneye	5	41	1	3
July 13	Rand	C. Goldeneye	7	26	-	-
		Totals	12	67		
		Mean	5.5 yg./brood			

During 1967 individual brood counts were conducted only on the Ghost River and the Moose Lake marshes. Water levels remained very high on the Ghost and probably accounted in part for the increase in mean brood size of Common Goldeneyes, as escape cover was greatly improved. It is unfortunate that on this marsh it is not possible to obtain data on nesting success of Blacks, Mallards and Ring-necks, all of which are known to be resident species. Hatching dates were late this year due to the cold late spring and high water levels. Of the 13 broods of Goldeneye observed, all but two were still in the "Downy" stage of development. The mean of 5.5 young compares with 4.0 in 1966 and 3.7 in 1965 and indicates a definite improvement in this species especially on the South Marsh. During the checking of hunters on opening day, September 15th, 1967, one brood of flightless Mallards and two broods of flightless Ring-necks were observed on the South Marsh, a further indication of the lateness of the year.

II - Moose Lake Marshes - Bond Twp.

Date	Area	Specie	Com. Birds	# Yg.	Mean	Inc. Brds.	# Yg.
July 19	Crooked Creek	Am. Widg.	2	12	6.0	2	2
		B.W.Teal	2	7	3.5	1	2
		H. Merg.	1	4	---	-	-
		C. Gold.	1	3	-	-	-
July 20	Driftwood R.	Black	2	16	8.0	1	2
July 20	Moose L.	C. Gold.	3	16	5.3	-	-
			11			4	

Brood incidence on this area was much lower than in 1966 (22). This may be due, in the case of American Widgeon at least, to very high spring water levels and their flooding effects upon prime sedge nesting areas. In addition, there was considerable angling activity in the area at the time of the brood counts. The latter probably accounts for the low brood incidence on the Driftwood River as compared with last year.

Section B

WATERFOWL HUNTER AND BAG CHECKS

I
(A) Opening Day (Sept. 15) - Complete District

Summary

No. hunters checked - 73

No. man-hrs. hunted - 128

No. ducks shot - 132

% cripple loss - 12.1%

Success - $\frac{\text{1.8 ducks / hunter}}{\text{1.03 ducks / man-hour}}$

Considering opening day temperatures in the 30° range and the fact that bright sun and very light winds kept waterfowl movements to a minimum, the figure of 1.8 ducks per hunter interviewed is quite respectable as it represents the total of all areas checked. Hunter activity was confined to the early morning and late evening hours, hence the relatively low number of man-hours recorded.

(B) "Season" Data

The following summary indicates season totals for all areas combined with opening day information.

Summary - "Season" data - all areas

No. hunters checked - 118

No. man-hrs. hunted - 196

No. ducks shot - 211

% cripple loss - 10.8%

Success rate - $\frac{\text{1.7 ducks / hunter}}{\text{1.07 ducks / man-hour}}$

In this district, the very light hunting activity after the first few days of the commencement of the duck season deems it necessary to confine bag check data collection to the first weekend on the selected areas. Hence the "season" information includes September 15, 16 and 17 only.

II

Bag Check Data - By Area

In this section, each area of the district from which data is available has been summarized by "opening" day and by season. Wherever possible last year's data is listed as well for comparative purposes.

Table IIA presents data from all areas covered by opening day only, while Table IIB gives information on "Season" Data for the areas checked after opening day.

TABLE IIA

Opening Day by Area

Area	Hunters	Man Hours	Ducks	% Cripples	Success Birds / Hr.	Success Birds / Man
Ghost River	19	38	42	10%	1.1 (0.5)	2.2 (4.1)
Long Lake	6	20	16	-	0.8 (0.31)	2.6 (1.1)
Little Clay Belt	10	20	22	20%	1.1	2.2
Kirkland Slimes	20	29	10	10%	0.3	0.5
Hill Lake	5	6	19	15%	3.1	3.8
Mountain Lake	11	13	29	10%	2.2	2.6 (2.7)
Tamarack Creek	2	2	4	50%	2.0	2.0
	73	128	132			

N.B. - Figures in brackets indicate 1966 figures for comparative purposes.

TABLE II B

Season Data by Area

Area	Hunters	Hours	Ducks	% Cripples	Success Birds/Hr.	Success Birds/Htr.
Ghost River	38	50	65	12.7%	1.1	1.4
Long Lake	27	67	52	11.5%	0.7	1.9
Little Clay Belt	15	29	32	6.2%	1.1	2.1

Species Composition of the Kill

"Season" totals have been used to make up Table III, information on hunters' bag by species.

It is noted that only on the Ghost River Marshes did Mallards have greater representation in the kill than Blacks. 1966 marked the first time that Mallards were more numerous in this area and this is only the second year that this phenomena has been recorded. This year all other areas reported a preponderance of Blacks in the kill. This factor bears out the previous observation concerning Black duck hatching success, and also we feel, provides further evidence of the important relationship between Blacks and the currently high district beaver population with its subsequent increase in available breeding sites.

TABLE III

Hunters Bag - By Specie

Area	Total Ducks	Black	Mallard	Ring-Necked	Golden-eye	Widgeon	L. Scaup	Blue-w. Teal	Green-w. Teal	Pin-tail	Wood-Duck	Hood. Merg.	Unk.
Ghost Riv.	65	16	23	7	3	2		8	2	1	3		
Little Clay Belt	32	19	7					3		3			
Long Lake	52	22	10	4	7			4					5
Kirkland slimes	10	4	3				2			1			
Hill Lake	19	2	1	2		3	2	1					8
Mountain Lake	29	8						6				15	
Tamarack Creek	4	2	2										
Totals	211	73	46	13	10	5	4	22	2	5	3	15	13
% of kill each species		34.6	21.8	6.2	4.7	2.4	1.9	10.4	0.9	2.4	1.4	7.1	6.2

AGE - SEX DATA

GHOST RIVER (September 15 & 16)

Total	Species	Immature Male	Immature Female	Adult Male	Adult Female
17	Black	6	7	1	3
21	Mallard	6	10	1	4
9	Blue-winged Teal	6	3	-	-
6	Ring-necked	3	3	-	-
4	Goldeneye	2	2	-	-
3	Widgeon	3	-	-	-
2	Wood-duck	-	-	2	-
2	Green-winged Teal	2	-	-	-
1	Pintail	1	-	-	-
65		29	25	4	7

LITTLE CLAY BELT - (Opening day only)

Total	Species	Immature Male	Immature Female	Adult Male	Adult Female
12	Black	5	6	-	-
6	Mallard	1	5	-	-
2	Blue-winged Teal	-	1	1	-
2	Pintail	1	1	-	-
		7	13	1	1

* 1 adult female Canada Goose Taken

All ducks checked on the Ghost River and the Little Clay Belt areas were examined cloacally to determine age and sex. In the case of the Ghost River at least, the reduced kill is the result of the "bluebird" weather encountered resulting in hunters being less discriminating in their targets, hence the lower percentage of Blacks and Mallards in the kill. Both these samples are of course, too small to permit analysis and are included in the interest of building up a backlog of such data over a period of years from pre-determined areas.

SECTION C - DUCK BANDING

Once again, the U.S. airboat, operated by U.S. Game Management Agent, Leo Badger, now of Delaware, was operated in Northeastern Ontario for the purpose of banding waterfowl.

The only operation in the Swastika district was at Moose Lake, Bond Township, where a disappointing total of only nine ducks were banded in one night's running. Considerable difficulty was encountered in holding the few ducks seen in the beam of the spotlights due in part, to the increase in flooded escape cover at this site.

Bait Trapping

This year a shortage in funds prompted us to pool our meagre finances with Cochrane to conduct a co-operative duck banding project at Big Piskwanish Point on James Bay. A total of 530 ducks were banded at this site. This project will be covered in detail under a separate report (Gardner, 1967).

Reference

Gardner, J.F. - Waterfowl Production and Harvest Report, Swastika District - 1966 - unpub. Fish and Wildlife district report. 18 pp.

Gardner, J.F. - Co-operative Waterfowl Banding Program, Big Piskwanish Point, James Bay - 1967 - unpub. Fish and Wildlife district report. 15 pp.

**Map on brood observations available in Fish and Wildlife Library, Maple.

LIVE-TRAPPING PHEASANTS 1968

LAKE SIMCOE DISTRICT

by
K.C. Faulkner

Abstract

In the months of January and February of 1968, a total of 28 days and evenings were spent live-trapping pheasants. Three traps were operated for 28 days, a fourth trap for 27 days and the fifth trap for a period of 20 days. This resulted in the capture of 144 pheasants with 87 being hens and 57 cocks.

The total cost of the project was $414.53 of which $40.93 was spent on materials (grain and net), $56.25 was the approximate cost of gas used and $317.35 was the average cost of the Officers' time.

This was the second attempt to live-trap pheasants in the Lake Simcoe District.

Introduction and Purpose

The pheasant, commonly known as the ring-necked pheasant, is a large chicken-like bird with a long tail. This is our only game pheasant, an introduction, originally from Asia. The male, usually with a white neck ring is distinguished by his brilliant plumage. The female is brownish and considerably smaller with a shorter tail.

These birds inhabit bushy edges, orchards and swail generally. Since their food is chiefly seeds, they are primarily a ground feeding bird and consequently found in many agricultural areas inhabiting areas adjacent to corn fields, wheat fields and most grain fields.

The pheasants were trapped primarily in the winter because of their flocking together for warmth, shelter and feeding purposes. These birds are much easier to trap when in a group as compared to singly and an abundance of snow with a good crust makes the bait easier to find since the presence of food is scarce.

The purpose of live-trapping pheasants was to improve the breeding strain in the two pheasant hatcheries at Normandale and Codrington, by breeding wild birds with hatchery-reared birds.

Materials

Description of Traps

Trap #1 was box-shaped with hog-nosed rings used in securing the sides together. This was a collapsible trap and consequently easily moved. The trap had cotton netting as a false roof with the four sides covered with welded wire. The trap measured 40" x 72" x 48" (in height). See Diagram 3.

It had a (3/4) semi-circular wire tunnel inserted approximately 1-1/2 feet inside the trap. See Diagram 5.

Trap numbers 2, 3 and 4 were triangular shaped with full wire mesh tunnel insertions. The entrances varied in length and in the sizes of the openings. See Diagram 4.

Traps 2 and 3 had cotton netting attached on the inside and close to the tops of the traps for the protection of the birds. Trap 4 was different only in the use of wire mesh instead of cotton netting on the inside. All traps were covered with wire mesh and measured 33" x 33" from top to bottom, 40" wide and 75" long and were constructed with 2 x 2 lumber. See Diagram 2.

Trap 5 had a semi-circular shaped top measuring 30" from the top of the trap to the bottom, 40" wide and 75" long. This trap had fish netting as a false roof and a full wire tunnel inserted similar to traps 2, 3 and 4. This trap was the original design of traps used years ago by the Department. See Diagram 1.

TRAPS

DIAGRAM NO. I

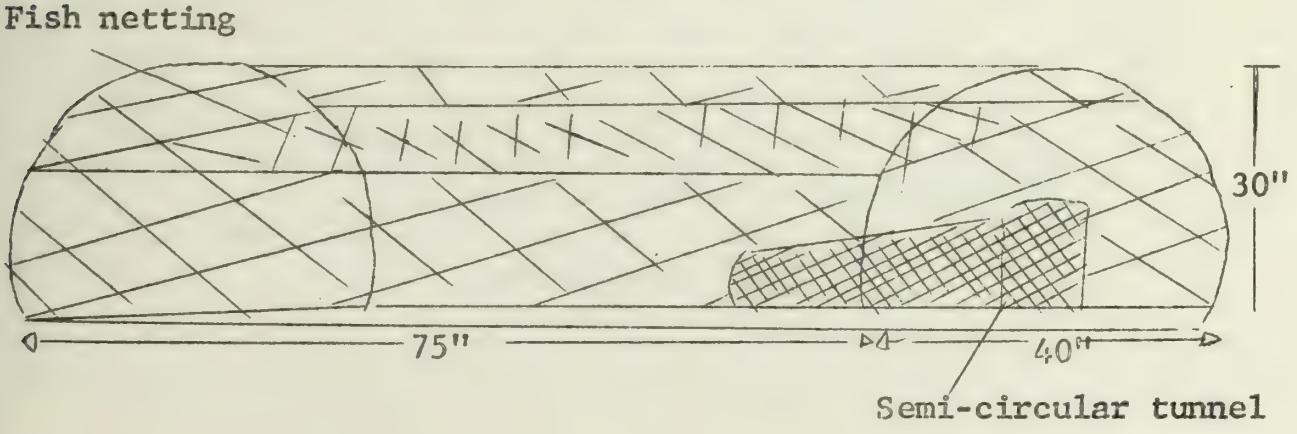


DIAGRAM NO. 2

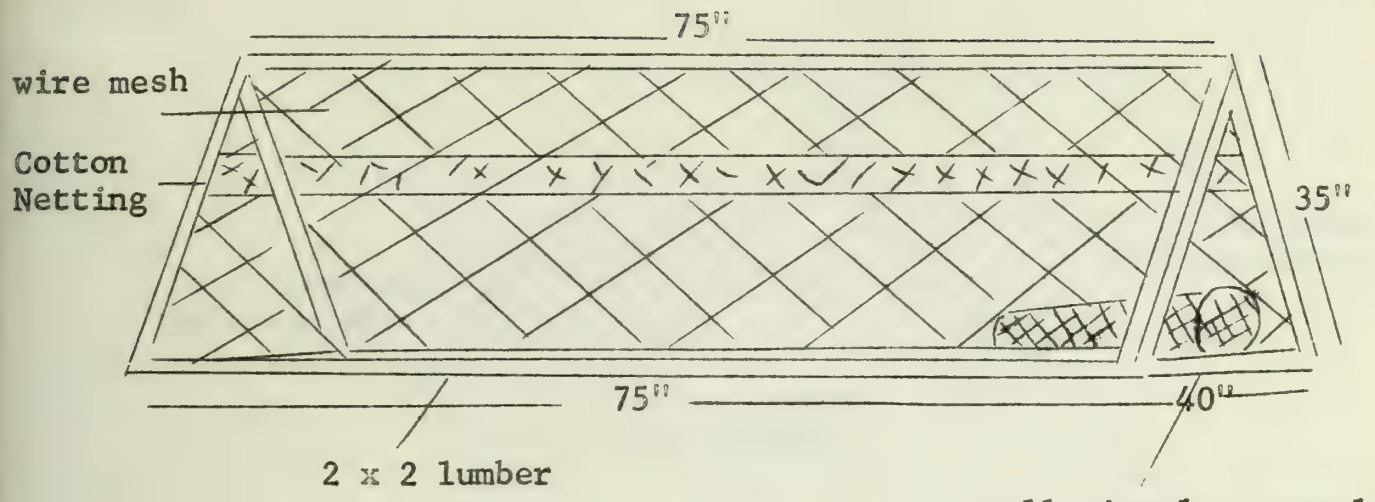
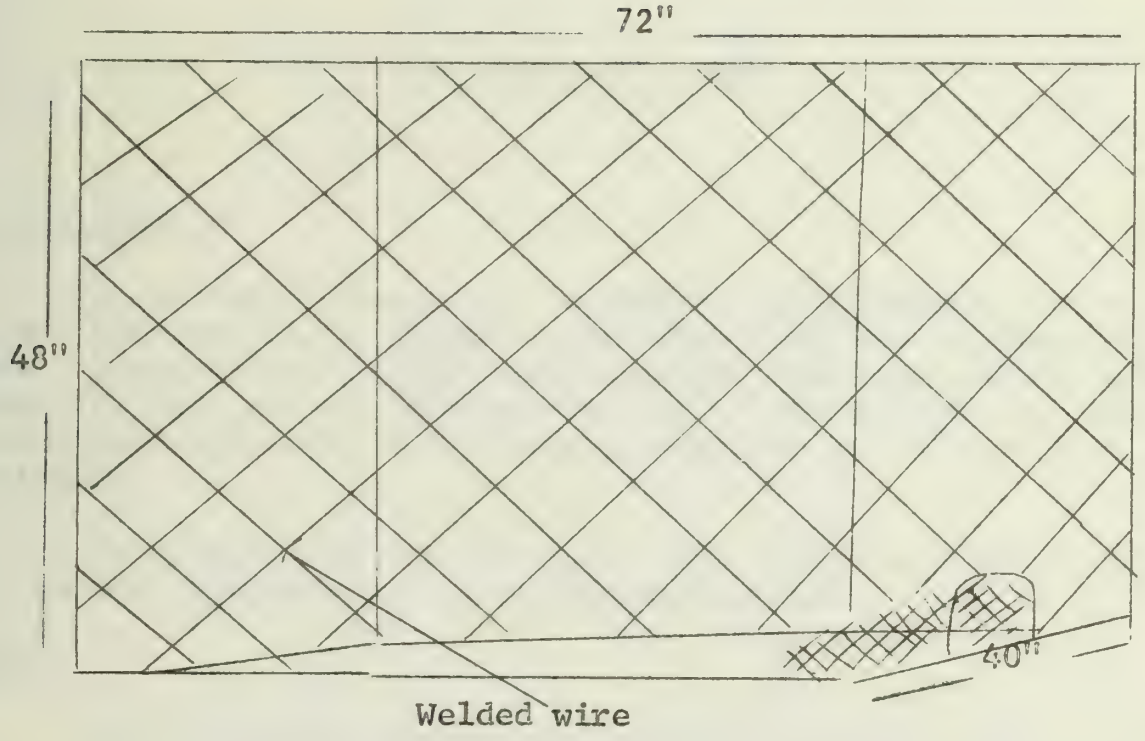
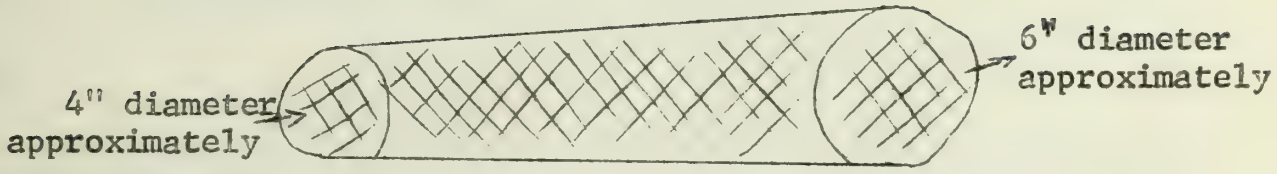


DIAGRAM NO. 3



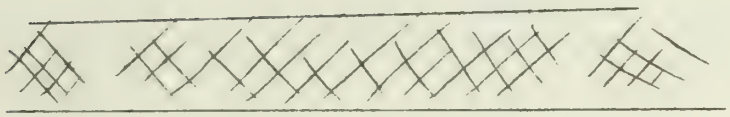
TUNNELS

DIAGRAM 4



FULL TUNNEL

DIAGRAM 5



SEMI-CIRCULAR TUNNEL

Other Equipment

A landing net was used for taking the pheasants out of the traps and for travelling purposes the birds were put in pheasant cartons. Approximately 1,000 lbs. of grain consisting of (1) wheat (2) corn (3) oats and (4) scratch was used. The majority of this grain was used for feed in the holding pens and a small portion used for baiting.

Conifer boughs were used on a few traps for camouflage not only from the pheasants but also from the public.

Location

The birds were located by driving the roads south of #7 Highway in Markham Township where hunting is restricted. There are a large number of birds in this area because of this hunting restriction and easy access is afforded to suitable trapping areas.

All traps were placed south of #7 Highway ranging from Lot 6, Concession 4 to Lot 6, Concession 6. The traps were moved frequently but stayed in the general area and if the trap was moved within the same Lot and Concession, it was considered to have remained at one location. Only locations where traps were moved out of the Lot and Concession were noted. The traps were placed in such habitat as apple orchards, conifer fence-rows and small woodlots.

Methods

At first, a large quantity of grain was used in baiting - luring the pheasants in to about 3 feet in front of the trap. After the birds found the feed, smaller amounts of grain were used. The grain was spread throughout the tunnel as well as substantially inside the trap and at no time was feed placed all around the trap. In some cases, spruce boughs were used to cover up the traps and small limbs were placed in and on the tunnels since snow was packed on the wire bottoms where the birds would have to walk on the wire to get inside the trap.

The traps were checked 2 and in some instances 3 times a day but generally in the morning and the evening. The traps were rebaited whenever necessary.

When birds were trapped, a landing net was used to get them out and they were immediately placed in pheasant cartons. They were then transported by vehicle over to the holding pens at Gormley, owned and operated by the Whitchurch Conservation Club.

Results - See Table 1

Number of days traps were in operation	28
Number of officers checking traps	2
No. of traps used	5
No. of Locations used	10
Approx. no. of hours spent checking traps (total)	144-1/4
Ave. no. of Hours spent each day checking traps	5-1/4
No. of miles driven in Department vehicle	2446
Ave. no. of miles driven each day	87.4
Total no. of birds harvested	144
No. of cocks harvested	57
No. of hens harvested	87
Ratio of the no. of hens to cocks	1:5 - I
Ave. no. of birds captured per day	5.1
Total cost of project	$414.53
Approximate cost per bird captured	$ 2.88

Discussion - See Table I

Trap #1

The first location was a woodlot where the trap was set for a period of 14 days resulting in the harvest of 2 cocks and 6 hens.

The second location was an apple orchard where the trap was set for a period of 9 days resulting in the harvest of 7 hens.

The third location was a woodlot where the trap was set for a period of 5 days resulting in the harvest of 4 cocks and 10 hens.

Trap #2

The first location was a woodlot where the trap was set for a period of 14 days resulting in the harvest of 9 hens.

The second location was a conifer fence-row where the trap was set for a period of 14 days resulting in the harvest of 5 cocks and 7 hens.

Trap #3

The first location was an apple orchard where the trap was set for a period of 23 days resulting in the harvest of 14 cocks and 13 hens.

The second location was a woodlot where the trap was set for a period of 5 days with no birds being harvested.

Trap #4

The first location was a conifer fence-row where the trap was set for a period of 22 days resulting in the harvest of 2 cocks and 11 hens.

The second location was an apple orchard where the trap was set for a period of 5 days resulting in the harvest of 3 cocks and 2 hens.

Trap #5

Trap #5 was set in one location which was a conifer fence-row and an adjoining bush and remained for a period of 20 days resulting in the harvest of 27 cocks and 22 hens.

Statistics Table #1

Trap #	Description	No. days Operated	Pheasants Cocks	Hens	Total
#1	From Jan. 17-31, Lot 1, Con. 5, Markham Twp. (woodlot)	14 days	2	6	8
	From Jan. 31-Feb. 9, Lot 3, Con. 4, Markham Twp. (orchard)	9 days	-	7	7
	From Feb. 9-14, Lot 6, Con. 6 Markham Twp. (woodlot)	5 days	4	10	14
#2	From Jan. 17-31, Lot 1, Con. 5 Markham Twp. (woodlot)	14 days	-	9	9
	From Jan. 31-Feb. 14, Lot 6, Con. 4, Markham Twp (conifer fence-row)	14 days	5	7	12
#3	From Jan. 17-Feb. 9,Lot 1, Con. 6, Makkham Twp. (orchard)	23 days	14	13	27
	From Feb. 9-14, Lot 6, Con. 6 Markham Twp. (woodlot)	5 days	--	--	--
#4	From Jan. 18-Feb. 9, Lot 1, Con. 6, Markham Twp. (conifer fence-row)	22 days	2	11	13
	From Feb. 9-14, Lot 3, Con. 4 Markham Twp. (orchard)	5 days	3	2	5
#5	From Jan. 25-Feb. 14, Lot 1, Con. 6, Markham Twp. (conifer fence-row)	20 days	27	22	49
	Total		57	87	144

Summary

Trap #5, which was the originally designed trap used by the Department years ago, was the most productive harvesting 34% of the total birds. There are no definite cnnclusions as to why this is so except for the location.

There were 2 types of tunnels used. The first tunnel had a bottom present whereas the second tunnel was bottomless. It was observed that in order to entice the birds into the full tunnel, it was necessary to either pack snow over the wire or place conifer branches on top of the wire. It was quite evident that birds would hesitate to walk on bare wire.

With the semi-circular tunnel, there was no trouble in enticing the pheasants in as they were walking on snow all the way inside the trap.

In this report traps and tunnels are compared as to the harvest of pheasants but, of course, the main concentration of harvest would depend on the location. Several locations were observed where traps could have been put, but in choosing these locations one must consider public access. This year the traps were set in locations where the public had little chance of tampering with them and no occurrences were signted. However, dogs did get at one trap and killed 3 roosters but this was unavoidable.

Weather conditions played a very minor part in this years project for the weather was exceptionally good. However, there was a 4 day period during which we had a bad ice storm and harvested very few birds because of their inability to move around.

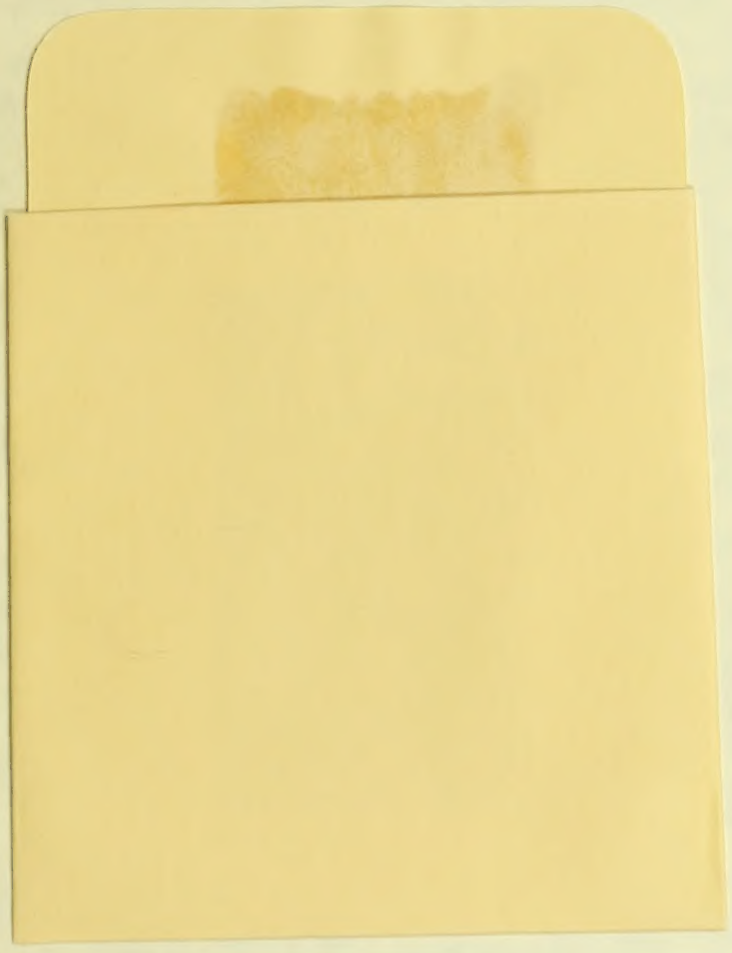
Camouflage was used in three cases but whether or not more birds were harvested using camouflage was inconclusive. However, by using camouflage, it did prevent the public from becoming aware of the trapping.

There were 2 difficulties encountered while trapping and any advice or recommendations would be greatly appreciated. The first was squirrels. This year many squirrels were caught and released and naturally when squirrels are present, pheasants are not. How we can overcome this problem is unknown at the present.

The second difficulty is the damage of the pheasants heads. Once trapped, the birds would fly around and bang their heads into the wire, in many cases damaging the tops of their heads quite badly. Netting was used as a false roof managing to diminish the problem, but only slightly. Any ideas on preventing this would be welcome.

Acknowledgements

I wish to thank Mr. J.S. Dorland for his held in the project and also his criticism of this report. I would also like to thank Conservation Officer G. Haarmeyer for his assistance in the project.

Reference

Field Guide to American Wildlife by Henry Hill Collins.